

REMARKS

In accordance with the forgoing, claims 1, 4-7, 9-12, 14, 15, 19-21, 41, 45-47, 50 and 55-57 have been amended. Claims 1, 4-21, 24-41 and 44-57 are pending and under consideration.

I. Rejections Under 35 USC § 112

Claims 4-15, 19, 20, 45-53 and 56 stand rejected under 35 USC § 112, second paragraph, as being indefinite for failing to point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 4-15, 19, 20, 45-53 and 56 have been amended to provide further structure as necessary. Accordingly, withdrawal of the rejection is respectfully requested.

II. Rejections Under 35 USC § 102 and Under 35 USC § 103

Claims 1, 4, 13-17, 19-21, 24, 33-37, 39-41, 44, 49-53 and 55-57 stand rejected under 35 USC § 102(b) as being anticipated by U.S. Patent No. 5,271,395 to Wahlstrand et al. ("Wahlstrand"), and claims 5-12, 25-32, and 45-48 stand rejected under 35 USC § 103(a) as being unpatentable over Wahlstrand. Applicants respectfully assert that the claims of the present invention are patentably distinguishable from Wahlstrand, and the rejection is respectfully traversed.

Independent claims 1, 21, 41 and 57 of the present application are directed to determining changes in relative position of the short term trend and the baseline trend, and accumulating, in response to the determined changes, a difference between the updated baseline trend and one of a most recent measured impedance, a period average impedance and the short term trend of the measured impedances. Therefore, according to the invention, rather than being a straight accumulating, the accumulating of the difference between the updated baseline trend and one of a most recent measured impedance, a period average impedance, and the updated short term trend of the measured

impedances occurs under a specific condition of the determined changes (see paragraphs [0093] and [0094], for example).

Wahlstrand teaches a minute ventilation circuit that delta-modulates short term and long term weighted average values, and utilizes variations in the differences between the short term and long term weighted average values to determine a first target pacing rate. The Examiner's position is that although it is not specifically disclosed, since the differences between the short term and long term averages are determined, Wahlstrand must teach that the differences are accumulated by virtue of their having been determined.

Regardless of whether this assumption is correct or not, Wahlstrand does not teach specific conditions under which accumulating the differences is to be performed. Therefore, Wahlstrand does not teach or suggest determining changes in relative position of the short term trend and the baseline trend, and accumulating, in response to the determined changes, a difference between the updated baseline trend and one of a most recent measured impedance, a period average impedance, and the short term trend of the measured impedances, as set forth in independent claims 1, 21, 41 and 57 of the present application. Therefore for at least this reason, independent claims 1, 21, 41 and 57 are patentably distinguishable from Wahlstrand.

Furthermore, as described at paragraphs [0093] and [0094], in reference to step 524 of FIG 9 of the present application, for example, if the short term average impedance crosses the baseline impedance, rather than being updated, the accumulated difference is set to zero. Even if the assumption that Wahlstrand must teach that the differences are accumulated by virtue of their having been determined is correct, Wahlstrand does not teach or suggest setting the accumulated difference to zero when the short term trend intersects the adaptive baseline trend, as set forth in claims 4, 19, 24, 44 and 55 of the application.

Claims 4-15, 20, 24-35, 39, 40 and 44-56 depend directly or indirectly from either independent claim 1, 21 or 41 discussed above, and are submitted as

being patentable for the reasons described above that independent claims 1, 21 and 41 are believed to be patentable as well as for the reason that these claims further distinguish over Wahlstrand.

Accordingly, withdrawal of the rejection of claim 1 and claims 4-15 and 20 dependent thereon, independent claim 21 and claims 24-35, 39 and 40 dependent thereon, independent claim 41 and claims 44-56 dependent thereon, and independent claim 57 is respectfully requested.

Independent claims 16 and 36 set forth updating the short term trend by generating a weighted sum of the short term trend for two previous days and the measured impedance generated for the current day and the two previous days. Wahlstrand teaches using the relative difference between the short term and the long term averages to determine an impedance-based target pacing rate. In particular, every two seconds, the difference between the short term and the long term average is compared to the value of this difference two seconds before. Wahlstrand does not teach or suggest updating the short term trend by generating a weighted sum of the short term trend for two previous days and the measured impedance generated for the current day and the two previous days, as set forth in independent claims 16 and 36. Accordingly, for at least this reason, withdrawal of the rejection of claims 16 and 36 is respectfully requested.

Independent claims 17 and 37 set forth updating the adaptive baseline trend by setting the adaptive baseline trend equal to a previous adaptive baseline trend reduced by a predetermined downdrift in response to the current adaptive baseline trend being greater than the current short term trend, and by setting the adaptive baseline trend equal to the previous adaptive baseline trend increased by a predetermined updrift in response to the current adaptive baseline trend being less than the current short term trend, wherein the updrift is greater than the downdrift. Wahlstrand does not teach or suggest utilizing an updrift and a downdrift during updating of the long term and short term weighted average values. Therefore, Wahlstrand does not teach or suggest updating the adaptive baseline trend by setting the adaptive baseline trend equal to a previous adaptive

baseline trend reduced by a predetermined downdrift in response to the current adaptive baseline trend being greater than the current short term trend, and by setting the adaptive baseline trend equal to the previous adaptive baseline trend increased by a predetermined updrift in response to the current adaptive baseline trend being less than the current short term trend, wherein the updrift is greater than the downdrift, as set forth in independent claims 17 and 37. Therefore, independent claim 17 and 37 are patentably distinguishable from Wahlstrand.

Claims 18, 19 and 38 depend directly or indirectly from either independent claim 17 or 37 discussed above, and are submitted as being patentable for the reasons that independent claims 17 and 37 are believed to be patentable as well as for the reason that these claims further distinguish over Wahlstrand.

Accordingly, for at least the reasons set forth above, withdrawal of the rejection of independent claim 17 and claims 18 and 19 dependent thereon, and independent claim 37 and claim 38 dependent thereon is respectfully requested

III. Conclusion

Applicant asserts that the remarks presented herein are fully responsive to the Office Action and are sufficient to overcome the rejections presented in the Office Action. However, there may be other arguments to be made as to why the pending claims are patentable. Applicant does not concede any such arguments by having not presented them herein. Applicant respectfully asserts that the present claims are in condition for allowance. Withdrawal of the instant rejections and issuance of a Notice of Allowance is respectfully requested.

Should any issues remain outstanding, the Examiner is urged to telephone the undersigned to expedite prosecution. The Commissioner is authorized to charge any deficiencies and credit any overpayments to Deposit Account No. 13-2546.

Respectfully submitted,

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